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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,568	12/04/2003	Paul R. Coronado	IL-11286	8931
7590 06/04/2007 Ann M. Lee Assistant Laboratory Counsel Lawrence Livermore National Laboratory P.O. Box 808, L-703 Livermore, CA 94551			EXAMINER JOHNSON, EDWARD M	
			ART UNIT 1754	PAPER NUMBER
			MAIL DATE 06/04/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/728,568	<b>Applicant(s)</b> CORONADO ET AL.	
	<b>Examiner</b> Edward M. Johnson	<b>Art Unit</b> 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-8,10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8,10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-3, 5-6, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 combines the recitations comprising and consisting essentially of interchangeably, which would render the metes and bounds of the claim unclear to one skilled in the art.

Claim 14, "the method" lacks antecedent basis.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Demizu et al. US 5,547,794.

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Regarding claims 1 and 7, Demizu '794 discloses a granulated composition comprising hydrophobic aerogel (see column 9, lines 28-31) and active carbon (see column 4, lines 37-41).

Demizu fails to disclose functionalizing with an arsenic-removing constituent.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to functionalize the composition of Demizu with a arsenic-removing constituent because Demizu '794 further discloses iron and manganese (see column 4, lines 40-57), Applicant's preferred arsenic-removing constituent.

Regarding claims 2-3 and 5, Demizu '794 discloses granulated composition comprising hydrophobic aerogel (see column 9, lines 28-31) and active carbon (see column 4, lines 37-41).

Regarding claim 4, Demizu '794 discloses iron and manganese (see column 4, lines 40-57).

Regarding claim 6, Demizu '794 discloses washing (Example 1).

Regarding claim 14, Demizu discloses 0.8 parts per 100 (see column 9, lines 28-31).

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5. Claims 1-3, 5-7 and 11-14 are are rejected under 35 U.S.C. 103(a) as being unpatentable over Tavlarides '239, as applied above, and further in view of Moskovitz et al. US 5,948,726.

Regarding claims 1 and 7, Tavlarides '239 discloses a sorbent material for removing heavy metal ions (see abstract and Fig. 2) comprising hydrophobic functionalized silica gel (see column 5, lines 32-37 and 54-58).

Tavlarides fails to disclose iron and manganese.

Moskovitz '726 discloses manganese, iron (see column 8, lines 10, 25, and 32-33), and activated carbon (see column 6, line 37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the metals and active carbon of Moskovitz in the sorbent of Tavlarides because Moskovitz discloses the active carbon for use in making an adsorbent (title) preferably to cross-link the binder with itself and to facilitate further processing, extruding, or filter pressing (see column 6, lines 38-44).

Regarding claims 2-3, 5-6 and 11-14 Moskovitz '726 discloses manganese, iron (see column 8, lines 10, 25, and 32-33), activated carbon (see column 6, line 37), and addition of phosphoric acid (see column 9, lines 4-22).

***Allowable Subject Matter***

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6. Claims 8, 10, and 12-13 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not disclose or suggest the step of analyzing the dried hydrophobic sol-gel comprising a manganese and iron mixture on the solid support after contacting it with the aqueous sample in order to detect the presence and/or concentration of arsenic in the method of the instant claim 8.

***Response to Arguments***

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

The rejection over Tavlarides as a single reference has been withdrawn in view of Applicant's amendment and remarks.

It is argued that regarding base claims 1 and 7... as shown above. This is not persuasive because It is argued that regarding base claims 1 and 7... as mandated under SMPEP 2142 and *In re Royka*. This is not persuasive because Demizu '794 discloses iron and manganese (see column 4, lines 40-57) and also because Applicant does not claim "ferric chloride", as Applicant appears to suggest. Rather, Applicant merely claims any iron mixture. It is noted that the features upon which applicant relies (i.e., ferric chloride) are not recited in the

rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that it is to be noted that the Examiner had stated... incorporation of Phosphoric acid. This is not persuasive because a recitation of the intended use (i.e. arsenic removal) of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is argued that second, Applicants respectfully submit that the reject fails... to remove metals. This is not persuasive for the reasons above with respect to the recitation of intended use.

It is argued that third, Applicants respectfully submit... removal of arsenic. This is not persuasive for the reasons above.

It is argued that applicants have amended independent claims 1 and 7 and as discussed above. This is not persuasive because Moskovitz '726 discloses manganese, iron (see column 8,

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lines 10, 25, and 32-33), and activated carbon (see column 6, line 37).

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic



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Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'EMJ', with a long horizontal flourish extending to the right.

Edward M. Johnson  
Primary Examiner  
Art Unit 1754

EMJ